

WHAT IS CLAIMED IS:

1. An image formation apparatus comprising:

a photoreceptor;

5 a charger having a charging member for charging the photoreceptor;

a latent image write unit for writing an electrostatic latent image onto the photoreceptor charged by the charger;

and

10 a developing device having a developer support including a magnetic field production member, the developing device for rendering visible the electrostatic latent image written by the latent image write unit with a developer,

15 wherein the charging member of the charger is disposed under effect of a magnetic field produced by the magnetic field production member of the developing device; and

the charging member is made of a nonmagnetic material.

2. The image formation apparatus according to claim

20 1, wherein the charging member is made of a nonmagnetic material having magnetic permeability of 1.05 or less.

3. The image formation apparatus according to claim

25 1, wherein the charging member is made of a nonmagnetic material comprising SUS303 added copper.

4. The image formation apparatus according to claim 1, wherein the charging member comprises a sponge-like conductive elastic body on a nonmagnetic shaft thereof.

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5. The image formation apparatus according to claim 1, wherein an outer periphery of the conductive elastic body is coated with a cylindrical film.

10 6. The image formation apparatus according to claim 1, wherein the charging member comprises a nonmagnetic shaft having 600 N/mm² or more in the tensile strength.

15 7. The image formation apparatus according to claim 1, wherein the developer support of the developing device rotates at the number of revolutions to such an extent that a part of the developer scatters against a magnetic force produced by the magnetic filed production member.

20 8. The image formation apparatus according to claim 1, wherein the magnetic filed production member of the developing device has a developing magnetic pole set to 100 mT or more; and

25 an adjacent magnetic pole set to 50 mT or more is disposed at a part adjacent to the developing magnetic pole.

9. An image formation apparatus according claim 1,
wherein a charger further comprises a removal member
disposed in contact with the photoreceptor in the upstream of
5 the charging member, the removal member for removing a deposit
on the photoreceptor;

the removal member is disposed under the effect of a
magnetic field produced by the magnetic field production member
of the developing device; and

10 the removal member is made of a magnetic material.

10. The image formation apparatus according to claim
9, wherein the removal member is provided with a brush-like
member on a magnetic shaft thereof.

15 11. The image formation apparatus according to claim
9, wherein the removal member comprises a magnetic shaft made
of SUM.

20 12. The image formation apparatus according to claim
9, wherein the removal member comprises a magnetic shaft made
of SUM having a surface plated with nickel.

13. The image formation apparatus according to claim

25 9, wherein the removal member is provided with a brush-like

member by bonding a fiber-like member onto a magnetic shaft.

14. The image formation apparatus according to claim
9, wherein a predetermined removal bias is applied to the
5 removal member.

15. The image formation apparatus according to claim
9, wherein bias for holding an opposite-polarity toner and a
removal bias for transferring the held opposite-polarity toner
10 to the photoreceptor are applied to the removal member.

16. The image formation apparatus according to claim
1,

wherein a plurality of the photoreceptors, a plurality
15 of the chargers, and a plurality of the developing devices are
disposed in a vertical direction;

any one of the chargers is disposed at an intermediate
position between the developing devices positioned
consecutively up and down; and

20 the charging member of the charger is positioned
approximately below a developing part of the upper developing
device.

17. The image formation apparatus according to claim
25 1,

wherein a plurality of the photoreceptors, a plurality of the chargers, and a plurality of the developing devices are disposed in a vertical direction;

any one of the chargers is disposed at an intermediate 5 position between the developing devices positioned consecutively up and down; and

the charging member of the charger is disposed under the effect of the magnetic field produced by the magnetic field production member of each of the developing devices positioned 10 consecutively up and down.

18. The image formation apparatus according to claim 9,

wherein a plurality of the photoreceptors, a plurality of the chargers, and a plurality of the developing devices are 15 disposed in a vertical direction;

any one of the chargers is disposed at an intermediate position between the developing devices positioned consecutively up and down; and

20 the removal member of the charger is positioned approximately below a developing part of the upper developing device.

19. The image formation apparatus according to claim

25 9,

wherein a plurality of the photoreceptors, a plurality of the chargers, and a plurality of the developing devices are disposed in a vertical direction;

any one of the chargers is disposed at an intermediate
5 position between the developing devices positioned
consecutively up and down; and

the removal member of the charger is disposed under the
effect of the magnetic field produced by the magnetic field
10 production member of each of the developing devices positioned
consecutively up and down.

20. An image formation apparatus comprising:

a photoreceptor;

a charger having a charging member for charging the
15 photoreceptor, a removal member disposed in contact with the
photoreceptor in the upstream of the charging member, the
removal member for removing a deposit on the photoreceptor,
and a partition member for partitioning the charging member
and the removal member and causing a removed substance peeled
20 off from the removal member to collide therewith;

a latent image write unit for writing an electrostatic
latent image onto the photoreceptor charged by the charger;
and

25 a developing device having a developer support including
a magnetic field production member, the developing device for

rendering visible the electrostatic latent image written by the latent image write unit with a developer.

21. The image formation apparatus according to claim
5 20, wherein the partition member is placed out of contact with
the photoreceptor.

22. The image formation apparatus according to claim
10 20, wherein the partition member extends to below a line
connecting rotation centers of the charging member and the
removal member.

23. The image formation apparatus according to claim
15 20, wherein the partition member is placed out of contact with
the removal member.

24. The image formation apparatus according to claim
20, wherein a suction bias having the same polarity as a charge
bias applied to the charging member is applied to the partition
20 member.

25. The image formation apparatus according to claim
20, wherein the partition member is disposed under the effect
of a magnetic field produced by the magnetic field production
25 member of the developing device; and

the partition member is made of a magnetic material.

26. The image formation apparatus according to claim
20, wherein the charging member, the removal member, and the
5 partition member are positioned and supported on a common
support frame and are assembled through the support frame into
a main unit of the apparatus in one piece.

27. The image formation apparatus according to claim

10 20,

wherein a plurality of the photoreceptors, a plurality
of the chargers, and a plurality of the developing devices are
disposed in a vertical direction;

any one of the chargers is disposed at an intermediate
15 position between the developing devices positioned
consecutively up and down; and

the charging member of the charger is positioned
approximately below a developing part of the upper developing
device.

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28. An image formation apparatus comprising:

An image formation apparatus comprising:

a photoreceptor;

a charger having a charging member for charging the

25 photoreceptor;

a latent image write unit for writing an electrostatic latent image onto the photoreceptor charged by the charger; and

5 a developing device having a developer support including a magnetic field production member, the developing device for rendering visible the electrostatic latent image written by the latent image write unit with a developer,

wherein the charging member of the charger is coated at least on an outermost peripheral surface with a cylindrical surface layer film formed of a polymeric material; and
10 a material of the surface layer film has a Young's modulus of 0.6 GPa or less.

29. The image formation apparatus according to claim
15 28, wherein the material of the surface layer film is a thermoplastic polyester elastomer.

30. The image formation apparatus according to claim
28, wherein the charging member comprises a sponge-like
20 conductive elastic body on a support shaft thereof; and
the conductive elastic body is coated on an outer periphery with the cylindrical surface layer film.

31. The image formation apparatus according to claim
25 30, wherein the sponge-like conductive elastic body of the

charging member is a conductive urethane foam.

32. The image formation apparatus according to claim 28, wherein the surface layer film of the charging member has 5 a resistance value in a range of $10^6 \Omega/\square$ to $10^{6.5} \Omega/\square$.

33 The image formation apparatus according to claim 28, wherein the charging member has Asker F hardness of 90 degrees or less.

EPOLENE 2000 = POLYOLEFIN